



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,140	10/22/2003	Shinichi Namura	FL0253USNA	4965
23906	7590	08/09/2004	EXAMINER	
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			HU, HENRY S	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/691,140

Applicant(s)

NAMURA, SHINICHI

Examiner

Henry S. Hu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on IDS of 2-4-2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2-4-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicants' two-page IDS filed on February 4, 2004 was received. **Claims 1-4** are pending now. An Action follows.

Specification

2. The disclosure is objected to because of the following informalities:

(a) On **page 1** at lines 34 and 36, both recitations of " $(CF_2)_m$ " and " $(CF_3)_q$ " in the formula are improper and may be confused by the ordinary skill in the art. The examiner suggests using " $(CF_2)_m$ " and " $(CF_3)_q$ " according to traditional wording.

(b) On **page 4** at line 23, recitation of "Toyo" may be wrong. A correction to "**Tokyo**" may be needed.

(c) On **page 6** on the Table, the equation of " $C = A \times (1-B/100)$ " may be improper. The examiner suggests using " $C = A \times (1 - B/100)$ " with a space for "-". Otherwise, it may mean 1-B is over 100.

Appropriate corrections for (a) - (c) are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. *The limitation of parent **Claim 1** in the present invention relates to a composition comprising (A) 70-45 wt% of a copolymer of TFE (95-90 wt%)/PAVE (5-10 wt%), and (B) 30-55 wt% of PTFE, wherein said copolymer has a melt flow rate of 0.1-1.7 g/10 min at 372 +/- 1 °C, and said PTFE has a melt flow rate of not less than 1 g/10 min at 372 +/- 1 °C. See other limitations of dependent Claims 2-4.*

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Heffner et al. (USPG-PUB 2002/0061398 A1).

Regarding the limitation of parent **Claim 1**, Heffner et al. disclose the preparation of a blend of two different polytetrafluoroethylene, one being 5-90 wt% of the homopolymer of TFE and the other one being a PFA polymer (or called a modified PTFE) containing a small amount of co-monomer such as perfluoro(alkyl vinyl ether) (page 1, paragraphs 0007 and 0008; page 2, paragraph 0025). Heffner et al. further disclose the above-mentioned copolymer has a **melt flow rate** (MFR) of 0.5-500 g/10 min at 372 +/- 1 °C (page 2, paragraph 0021), while PTFE polymer should have a viscosity close enough with that of PFA in order to permit adequate mixing in blending (page 2, paragraph 0026).

7. Regarding **Claim 2**, Heffner discloses that PPVE, PEVE and PMVE are all used as preferable perfluoro(alkyl vinyl ether) monomers (page 1, paragraph 0023).

Remaining **Claims 3 and 4** are thereby rejected by the same reason applied to the above rejection for Claims 1 and 2.

8. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Branca (US 5,708,044).

Regarding the limitation of parent **Claim 1**, **Branca** discloses the preparation of a blend of two different polytetrafluoroethylene, one being 10-90 wt% of the homopolymer of TFE and the other one being 90-10 wt% of a modified PTFE containing a small amount of co-monomer such as perfluoro(alkyl vinyl ether) (column 2, lines 1-5 and 27-36; column 3, line 14-23).

Branca is silent of the claimed melt flow rate for above-mentioned two different polytetrafluoroethylenes. In light of the fact that the prior art and the present invention recite **substantially identical composition in homo- and co-polymers of tetrafluoroethylene and may be polymerized in the same process** (see polymerization in example 1 at column 3, line 65 – column 4, line 31), a reasonable basis exists to believe that the products of the invention inherently possess the same properties. Since the PTO cannot perform experiments, the burden is shifted to the applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP 2112-2112.02.

9. Regarding **Claim 2**, Branca discloses that PPVE is the preferable one in perfluoro(alkyl vinyl ether), certainly PEVE is included.

Remaining **Claims 3 and 4** are thereby rejected by the same reason applied to the above rejection for Claims 1 and 2.

10. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Leck (US 6,248,435 B1).

Regarding the limitation of parent **Claim 1**, **Leck** discloses the preparation of a melt-fabricable blend of two different polytetrafluoroethylene, one being the homopolymer of TFE and the other one being a PFA copolymer (or called a modified PTFE) containing a small amount of perfluoro(alkyl vinyl ether) such as PEVE or PPVE (column 6, lines 32- 62; abstract, line 6-7; column 13, line 8-9).

Leck has disclosed melt viscosity but is specifically silent of the claimed melt flow rate for above-mentioned two different polytetrafluoroethylenes. In light of the fact that the prior art and the present invention recite **substantially identical composition in homo- and co-polymers of tetrafluoroethylene and may be polymerized in the same process** (see polymerization in example 1 at column 3, line 65 – column 4, line 31), a reasonable basis exists to believe that the products of the invention inherently possess the same properties. Since the PTO cannot perform experiments, the burden is shifted to the

applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP 2112-2112.02.

11. Regarding **Claim 2**, Leck discloses that PPVE and PEVE are used as preferable perfluoro(alkyl vinyl ether) monomers.

Remaining **Claims 3 and 4** are thereby rejected by the same reason applied to the above rejection for Claims 1 and 2.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a composition comprising (A) a copolymer of TFE/PAVE and (B) PTFE homopolymer:

US Patent No. 5,463,006 to Abusleme et al. only discloses the preparation of thermo-processable **tetrafluoroethylene copolymers** suitable for coating electric cable by melt extrusion. These copolymers consist of (A) 0.5-13 wt% of **PMVE**, (B) 0.05-3 wt% of one or more monomers selected from specific **linear PAVE or cyclic PVE** and (C) **TFE** (abstract, line 1-12). However, the claimed blend of PTFE homopolymer with copolymer of TFE/PEVE/PPVE is not disclosed. Therefore, Abusleme fails to teach the claimed limitation of present application.

13. **US Patent No. 5,461,129 to Kurihara et al.** only discloses the preparation of thermo-processable **tetrafluoroethylene/perfluorovinylether copolymers** suitable for molding into sheet or film. These copolymers comprise (A) 1-10 wt% of **PEVE** and (B) 99-90 wt% of **TFE** (abstract, line 1-6). However, the claimed blend of PTFE homopolymer with copolymer of TFE/PEVE is not disclosed. Therefore, Kurihara fails to teach the claimed limitation of present application.

US Patent No. 4,029,868 to Carlson only discloses the preparation of thermo-processable **tetrafluoroethylene/perfluorovinylether copolymers** suitable for molding into sheet or film. These copolymers comprises (A) 0.5-3 wt% of **PEVE or PPVE**, (B) 4-12 wt% of **HFP** and (C) **TFE** (column 2, line 25-34; abstract, line 1-8). However, the claimed blend of PTFE homopolymer with copolymer of TFE/PEVE or TFE/PPVE is not disclosed. Therefore, Carlson fails to teach the claimed limitation of present application.

14. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the

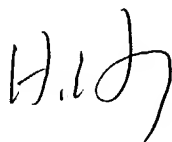
Application/Control Number: 10/691,140

Page 9

Art Unit: 1713

organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

August 4, 2004



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700